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Cross-reactivity of beta-lactams regarding their production of serum sickness-like reactions

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Q:

10/4/2014

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If a child has a well-documented episode of serum-sickness-like-reaction to a beta-lactam antibiotic, let's say amoxicillin, are they prohibited from using penicillin or cephalosporins for life? I understand 1) there is no way to test for SSLRs or future of recurrence; 2) re-exposure to the medication may yield more serious SSLR. However, I have seen many children under the age of 10, with classic SSLRs: urticaria/target lesions, edema, new fevers, joint swelling and all I am able to ascertain from families is that the avoidance of beta lactams will be lifelong. Is there any information suggesting challenging after a certain length of time is a reasonable option?

M

A:

Thank you for your inquiry.

A

There is no definitive answer to your question. Perhaps the most expeditious way to add knowledge of this area is to turn towards serum sickness reactions to cephalosporins.

P

The prototype for these reactions, and the best studied events, are perhaps those related to administration of cefaclor. However, this may be because cefaclor serum sickness-like reactions do not involve antibodies, but are rather due to an alternate metabolism of this drug resulting in intermediate compounds (1-4). Thus, patients with serum sickness-like reactions to cefaclor do not have to avoid other cephalosporins or penicillins.

A

A

But as noted, we do not have this type of knowledge regarding serum sickness-like reactions to beta-lactams, including those related to the administration of amoxicillin. Thus, although that, in the majority of instances, serum sickness-like reactions to cefaclor, and probably to cephalosporins, do not prohibit the administration of penicillin, we cannot make this statement regarding reactions occurring to penicillin beta-lactam antibiotics.

D

Thank you again for your inquiry and we hope this response is helpful to you.

Jc

A

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Fi

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M

Fi

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Sincerely,
Phil Lieberman, M.D.

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